The University of Melbourne
School of Computing and Information Systems
SWEN90016 Software Processes and Management
Semester 1 – 2018

Assignment Two

Learning Outcomes: The students will demonstrate the ability to:

- Develop a Project Management Plan (PMP) for a given project brief.
- Plan the activities involved in the chosen process.
- Execute, monitor and control processes to achieve an outcome.
- Work effectively in a team. Each member is expected to spend 30-40 hours on this assignment (as per handbook).

What your team is expected to do:

Your team is required to:

1. Develop a feasibility prototype of the software system (only the key requirements) described in the case study in Appendix B, using any language/technology/framework of your choice.

   Note: We understand that some students in the subject do not have a lot of software development experience, and therefore will have to learn some tools and technology to develop the software system in the case study. Therefore, the focus of the assessment will be less on the quality of the software artefacts produced and more on the process – how your team planned, executed, monitored and controlled the process to achieve the desired outcome. The product artefacts will demonstrate how well you achieved what you planned, hence the quality of the process and its execution.

2. Demonstrate that you have planned, executed, monitored and controlled a Software Development Life Cycle (SDLC) of your choice to deliver the software system prototype in item 1, through completing the Project Management Plan (template provided in Appendix A).

   Note: You may choose any type of SDLC (Formal, Agile or a combination of the two); your PMP must justify why you chose the SDLC and planning, execution, monitoring and control must demonstrate how well you managed the SDLC you chose.

Key Deliverables and Marks:

ID	Artefact	Submission	Date	Marks
1	Project Management Plan (PMP) Version 1.0 Sections 1-6 completed	LMS – team submission	Saturday 28th April11.59 pm (week 8)	7
2	Project Management Plan (PMP) Version 1.1 Updates to the PMP as needed. Include Section 7.1 (The version history should show what you changed and why.)	LMS – team submission	Saturday 5th May 11.59 pm (week 9)	5
3	Project Management Plan (PMP) Version 1.2 Updates to the PMP as needed. Include Section 7.2 (The version history should show what you changed and why.)	LMS – team submission	Saturday 12th May 11.59 pm (week 10)	5
4	Project Management Plan (PMP) Version 1.3 Updates to the PMP as needed. Include Section 7.3 (The version history should show what you changed and why.)	LMS – team submission	Saturday 19th May 11.59 pm (week 11)	5
5	Individual Reflection - Reflect on the estimation process you followed and its accuracy by comparing the estimated effort and the actual effort for each artefact. Analyse the discrepancies and propose strategies to improve your estimation process next time (3 marks). - Use the Peer Assessment form in Appendix C to assess your team member's contribution. Reflect on your team (500 words approximately), and how well the group functioned, the quality of the teamwork and the communication principles and style (2 marks).	LMS – individual submission as a single report	Sunday 20th May 11.59 pm (week 11)	5
6	Final Product – Software System	Demonstrate to the tutor	Week 12 workshop	3

Note: Although submissions 2 and 3 carry marks and must be submitted via LMS in weeks 9 and 10 respectively as evidence of process adherence, they will only be marked after the week 11 submission.

Submission and Feedback

- Once all team member details are decided then your tutor will create a group for your team on LMS TurnItIn.
- All submissions and feedback will be via LMS TurnItIn.
- Do not submit drawing software documents. Export charts to PDF or JPEG first.

Penalty for Late Submission

Late submissions without an approved extension will be subject to a penalty of **10% per day**. No assignment will be accepted more than one week late.

Warning about plagiarism

It is University policy that cheating by students in any form is not permitted, and that work submitted for assessment purposes must be the independent work of the student concerned (or, where joint work is permitted, of the students concerned). The University Policy and Procedures for Academic Misconduct can be found at: https://academichonesty.unimelb.edu.au/#policy. Plagiarism, or copying of another's work without proper acknowledgment, is not permitted. Nor is it permissible for anyone to allow another person to copy their work for the purposes of assessment. Assignment Aims To evaluate a case study from a risk management perspective.

Team Dispute Resolution

You are expected to resolve disputes within your team as a standard component of team communication. If unresolved concerns over the level of contribution from each team member occur, then you should alert your tutor early. Team marks may be adjusted for non-contributing team members. Where a team member fails to contribute to the group, for example by not turning up to multiple team meetings, the non-contributing team member may be ‘fired’ from the team. The team needs to reflect on the situation to their tutor in writing, including the details of the dates of missed meetings and the remediation attempted.

Appendix A – PMP Template

1. Title Page

2. Executive Summary

<Give your stakeholders a concise preview of the project's plan, purpose and approach. Consolidate the main points of the document to explain why the project is being undertaken, who will be responsible for implementing it, how much it is likely to cost, the desired outcomes and benefits it is likely to produce, and how long it will take to complete. An executive summary should be organised according to the sequence of information presented in the document. Use plain English and ensure all acronyms are fully expanded out the first time they are used. Keep the executive summary as succinct as possible and contained to a single page.>

3. Table of Contents

4. Introduction

4.1 Purpose of document

4.2 Audience of document

4.3 Limitations of document

4.4 Evolution of document

Version	Created by	Date created	Location	Comments
		Click here to enter a date.		

5 Project Information

5.1 Key Stakeholders

<From the project brief identify the key stakeholders for the project>

5.2 Scope

5.2.1 What is in-scope?

<Detail the scope of the project. The execution of the entire project starts with a clear and complete scope definition. Every other element of project planning will relate to scope and to the deliverables listed below. >

5.2.2 What is out-of-scope?

<It's equally important to list what the project team isn't responsible for delivering. This section provides the project team with the opportunity to clearly indicate what is not in scope of the project where there may be any doubt or confusion.>

5.3 Delivery approach / SDLC - Waterfall or Agile

☐ Waterfall ☐ Agile ☐ Hybrid

<Provide a justification as to why the chosen lifecycle is suitable for the case study.>

5.4 Business Value (Financial & Non-Financial Benefits)

<Provide a qualitative description of the business value for all the stakeholders, (quantitative dollar amounts not expected). Discuss how your IT project adds value and why it should be done.>

5.5 Constraints

<State any constraint you can identify, if there exists any.>

6 Project Governance

6.1 Roles and Responsibilities

<Identify the roles and responsibilities of the team. Example project roles:
waterfall: Business Owner / Senior User / Project Manager/Technical Subject Matter Expert
agile: Scrum Master / Product Owner / Dev Team Members / Subject Matter Expert>

6.2 Communication Plan

< Include a communication plan for your team, i.e. how your team plans to communicate within the team during this project.
>

6.3 Risk Management

<Show up to 10 key risks in the Risk Impact Analysis Table; ordered from highest to lowest priority.>

Risk ID	Risk Type (Business/Project/Product)	Description	Probability	Impact	Justification *< why your team chose this as a key risk>*

<Show the Risk Register for the risks that are in the control of the team.>

Risk ID	Trigger	Owner	Response	Resources Required

6.4 Project Planning

< If you chose a formal SDLC provide a Project Schedule for the chosen SDLC which shows the work break down structure, dependencies, resources required, a project timeline on a Gantt chart, including weekly milestones for at least weeks 9, 10 and 11.

If you chose an agile SDLC, provide a Sprint Plan for the first sprint, by choosing the appropriate feature-level stories, and breaking them into appropriate tasks estimated in hours.
>

7 Project Execution, Monitoring and Control

7.1 Project Status: Friday week 9

< Write a summary of your project status, and how you are tracking with respect to milestones and deliverables, as if the project manager was reporting to the stakeholders.>

7.1.1 Process Related Artefacts

*< Include all process related artefacts relevant to your process. e.g. agendas, minutes, a timesheet per member (**timesheet per member is required regardless of the chosen lifecycle**), progress Gantt charts, updated schedules, sprint planning meeting outcomes, sprint review inputs and outcomes, velocity estimations, burndown charts, low level task decompositions, images of Kanban boards, and any other process related artefacts that will demonstrate to your markers how well you were executing and managing the process (you may include them in an Appendix with a reference from this section to improve readability of the document).>*

7.1.2 Product Related Artefacts

< Include all products related artefacts such as requirements, use cases, user stories, designs, completed features lists, screen shots to show the status of the product and any other product related artefacts that we will demonstrate to your markers how well you were progressing towards achieving the milestones you planned (you may include them in an Appendix with a reference from this section to improve readability of the document).>

7.1.3 Risk Monitoring and Control

< Write a brief update on the risk status:

- *Did any of the risks originally identified occur?*
- *If the risks occurred did you mitigate the as planned?*
- *Did you identify new risks?*

>

7.2 Project Status: Friday week 10

< Write a summary of your project status, and how you are tracking with respect to milestones and deliverables, as if the project manager was reporting to the stakeholders.>

7.2.1 Process Related Artefacts

*< Include all process related artefacts relevant to your process. e.g. agendas, minutes, a timesheet per member (**timesheet per member is required regardless of the chosen lifecycle**), progress Gantt charts, updated schedules, sprint planning meeting outcomes, sprint review inputs and outcomes, velocity estimations, burndown charts, low level task decompositions, images of Kanban boards, and any other process related artefacts that will demonstrate to your markers how well you were executing and managing the process (you may include them in an Appendix with a reference from this section to improve readability of the document).>*

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7.2.3 Risk Monitoring and Control

< Write a brief update on the risk status:

- *Did any of the risks originally identified occur?*
- *If the risks occurred did you mitigate the as planned?*
- *Did you identify new risks?*

>

7.3 Project Status: Friday week 11

< Write a summary of your project status, and how you are tracking with respect to milestones and deliverables, as if the project manager was reporting to the stakeholders.>

7.3.1 Process Related Artefacts

*< Include all process related artefacts relevant to your process. e.g. agendas, minutes, a timesheet per member (**timesheet per member is required regardless of the chosen lifecycle**), progress Gantt charts, updated schedules, sprint planning meeting outcomes, sprint review inputs and outcomes, velocity estimations, burndown charts, low level task decompositions, images of Kanban boards, and any other process related artefacts that will demonstrate to your markers how well you were executing and managing the process (you may include them in an Appendix with a reference from this section to improve readability of the document).>*

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- *Did you identify new risks?*

>

Appendix B – Case Study

Business Case Background:

Tom is a hardworking and ambitious young man who has just completed his undergraduate degree in Commerce at a leading university in Melbourne. Although he has graduated with an honour degree and is confident that he could secure a job at a bank or another company without too much difficulty, Tom has decided that he wanted to first try his hand at forming his own business instead. The entrepreneurship course Tom undertook as part of his degree has shown him that while simply becoming an employee of a company is an easier and less risky way of securing a living, the high risk and challenge of forming one's own company can pay off great rewards in the long run and was worth the risk and the challenge. Because Tom is still young, single, and lives with his parents – saving him the need to spend on rent or mortgage – he feels that this is the ideal time for him to try to become an entrepreneur.

Being a dog lover, what Tom did as a part time job to cover his expenses was to work as a dog groomer in a pet shop located close to his university. Tom had also completed a Certificate IV training in dog grooming at a local TAFE while studying for his degree. Although Tom's part time work as a dog groomer at the pet shop was a convenient way for him to earn money while attending university, he realises that, as an employee of the pet shop, he gets paid for just a small fraction of his efforts and the remainder becomes the profit of the shop owner. Therefore, Tom wants to quit his job at the pet shop and form his own dog grooming business, which he believes can be expanded in the future to a profitable business with many employees.

Tom understands that starting a dedicated dog grooming shop in a shopping centre has high financial risk, as he would have to pay rent and utility bills regardless of the level of business. Although he could save on rent and utilities by starting the business in his parent's garden shed, the location does not provide easy access to customers. Therefore, Tom has decided that he would start a mobile dog grooming business instead, by purchasing an old mobile dog wash trailer or renting one if available. That way, Tom could provide a convenience to his customers by doing the grooming at their own homes. Also, Tom could reduce his utility costs by tapping into the customer's water supply through a hose and to their electricity using an extension cord where such access is convenient. Otherwise, he would use a water tank in the trailer and a battery and a solar panel mounted on the trailer together with an inverter to access water and electricity, respectively. Therefore, Tom plans to submit a business case to the local bank and apply for a business loan to enable him to buy or rent the mobile trailer and the necessary tools.

As far as Tom can see, the major challenge he would face in running the business is in getting new dog grooming appointments from customers and in handling requests for appointment cancellations or rescheduling. Because Tom will likely to be getting most calls while driving his vehicle to appointments or while actually engaged in grooming dogs, it would be difficult for him to answer the phone, look up the appointment book, note down new appointments or make changes. Another challenge he envisions in running a mobile grooming business is in the amount of travel that would be needed if adjacent appointments are located in physically far apart places. Given the unpredictable and often heavy traffic conditions in Melbourne, it would be time consuming, expensive, and difficult to travel from

one end of the town to another if the appointments are not carefully scheduled. Therefore, Tom has decided that he would have an online appointment system developed to automatically handle dog grooming appointments.

Although there are well established software development houses that could probably develop a good quality software application to meet Tom's needs, these companies are too expensive for Tom. Tom's friend Grace who is enrolled in a Master of Information Technology (MIT) course at the University of Melbourne, suggested to him that he could get his software developed through a student group in the Software Processes and Management subject at a fraction of the cost a professional company would charge. Although Tom understands that this option has its own risks, Tom has decided to go with Grace's suggestion.

The student team is required to develop a web-based system for appointment management that has the following functionality to be delivered by the 20th May 2018.

Key Requirements:

1. Allow clients to login with an email address and a password.
2. Add and edit client information such as the name, home address, multiple contact phone numbers (e.g. mobile, home and work numbers), and the information about one or more dogs the client may own; the information related to each dog includes, name, breed, date of birth.
3. Clients should be able to make appointments online. When making appointments, the client should be allowed to:
    a. Select a dog from the list of dogs already in the system;
    b. Select from a list of available appointment times (for simplicity, in the first version of the software, a fixed time of 90 minutes will be allocated per grooming, to allow time from grooming and travelling between locations);
    c. Select one out of a variety of grooming options such as wash only, wash and nail clipping, deluxe grooming etc.; and
    d. Add a description in a general comment field to give special instructions to the Groomer.
4. The clients should have the option to cancel or re-schedule appointments.
5. The system should generate an automatic reminder, via email, 24 hours prior to the appointment time,
6. The Groomer should be able to view a list of bookings.

Future Enhancements:

As future enhancements Tom would like the system to be able to:

- Enforce a 10% non-refundable payment through a credit card or paypal at the time of booking, which will be credited towards the final payment; and
- Support an intelligent geo-location aware calendar manager, that will show the available appointment times based on the distance between the location of appointments, as opposed to the fixed 90-minute slots.

Appendix C – Peer Assessment

Student Name: Student #: Team #:

Other Team Members Names						
General Aspect	**Specific Aspect**	**Self**	**Team Member 2**	**Team Member 3**	**Team Member 4**	**Team Member 5**
Team Process	Attended team meetings					
	Maintained contact with other members					
	Contributed constructively in team discussion					
	Cooperated in team activities					
	Encouraged & assisted other members					
The Tasks	Complete assigned tasks on time					
	Contributed intellectual ideas and solved problems					
	Did their fair share of the work					
	Read and commented in a timely manner on report					
Overall	Based on your ratings, this student's overall contribution					
How would you divide $1000 among all the team based on their contribution to your project		**$**	**$**	**$**	**$**	**$**

Scale

1 – did not contribute in this way
2 – willing but not very successful
3 – average contribution to process or tasks
4 – above average contribution to process or tasks
5 – outstanding contribution to process or tasks

Teamwork Reflection:

< Reflect on how well the group functioned, the quality of the teamwork and the communication principles and style.>